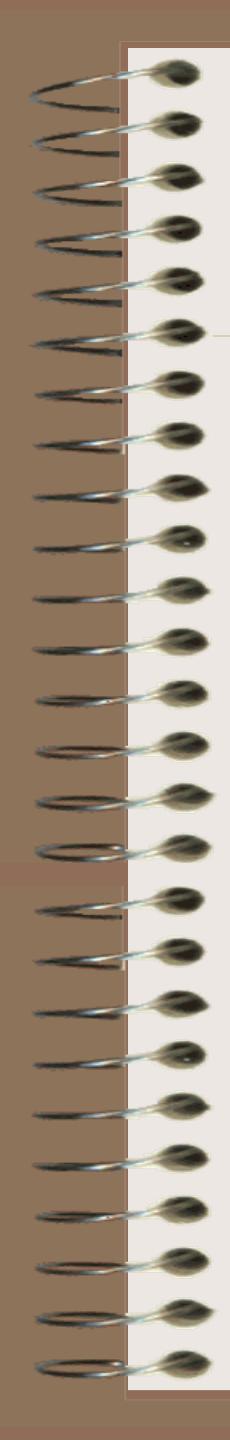




# Dysfunctional Uterine Bleeding

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# DUB: Definition

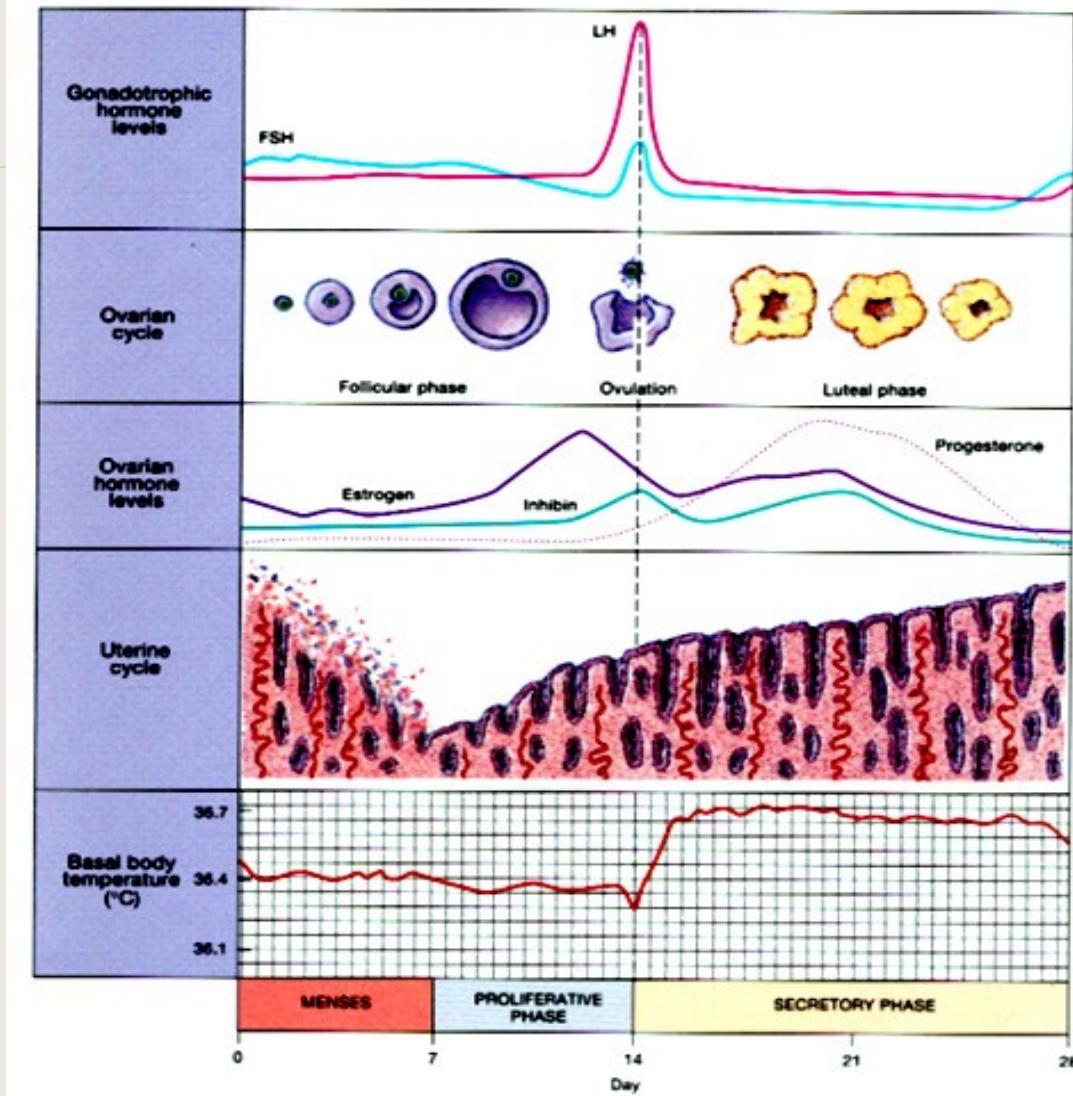
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- Excessive uterine bleeding
- No demonstrable organic cause
- Most frequently due to anovulation

# Normal Menses

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- Flow lasts 2-7 days
- Cycle 21-35 days in length
- Total menstrual blood loss 20-60 mL



# Common Terminology

<b>Descriptive Term</b>	<b>Bleeding pattern</b>
Menorrhagia	Regular cycles, prolonged duration, excessive flow
Metrorrhagia	Irregular cycles
Menometorrhagia	Irregular, prolonged, excessive
Hypermenorrhea	Regular, normal duration, excessive flow
Polymenorrhea	Frequent cycles

# Other Causes of Vaginal Bleeding

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- Pregnancy related causes
- Medications
- Anatomic causes
- Infectious disease
- Endocrine abnormalities: Thyroid, DM
- Bleeding disorders
- Endometrial hyperplasia
- Neoplasms



# Contraceptive Bleeding

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- OCP's
  - Lower dose contraceptives
  - Skipped pills
  - Altered absorption / metabolism
- Depo Provera
  - 50% irregular bleeding after first dose
  - 25% after a year
- Norplant
  - 30% have regular cycles
  - 66% have regular cycles by the 5<sup>th</sup> year of use

# Hormone Replacement Therapy

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- Sequential therapy
  - Bleeding near progesterone therapy
  - Bleed monthly
  - Can experience abnormal bleeding patterns
- Continuous therapy
  - 40% of women will bleed in first 4-6 months
  - Can try starting with sequential for 12 months to try and lower irregular bleeding rates



# Medications

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- Prescription: anticoagulants, SSRI's, antipsychotics, corticosteroids, tamoxifen
- OTC: soy supplements, gingko
  - Ginseng: known to have estrogenic properties
  - St. John's Wort can interact with oral contraceptives causing breakthrough bleeding



# Fibroids

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- Often asymptomatic
- Intramural and subserosal more likely to cause abnormal bleeding
- Usu cause heavier or prolonged periods

# Adenomyosis

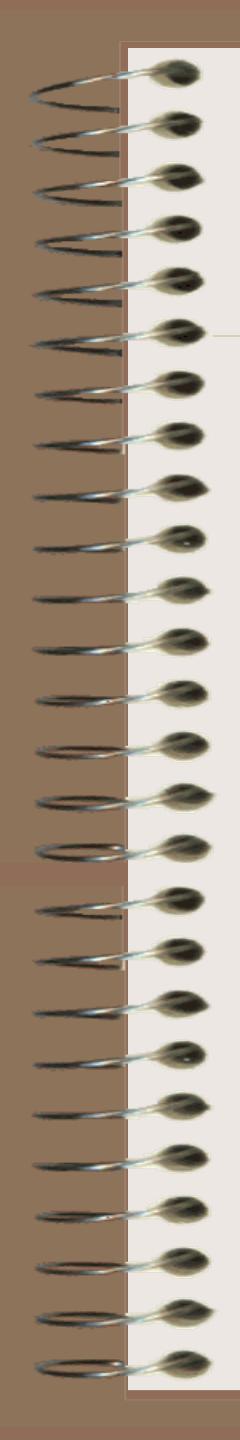
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- Endometrial glands within the myometrium
- Usu asymptomatic
- Can present with heavy or prolonged bleeding
- Often accompanied by dysmenorrhea up to one week before menstruation
- Sx us occur after age 40

# Polyps

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- Endometrial
  - Intermenstrual bleeding
  - Irregular bleeding
  - Menorrhagia
- Cervical
  - Intermenstual spotting
  - Postcoital spotting



# Infectious causes

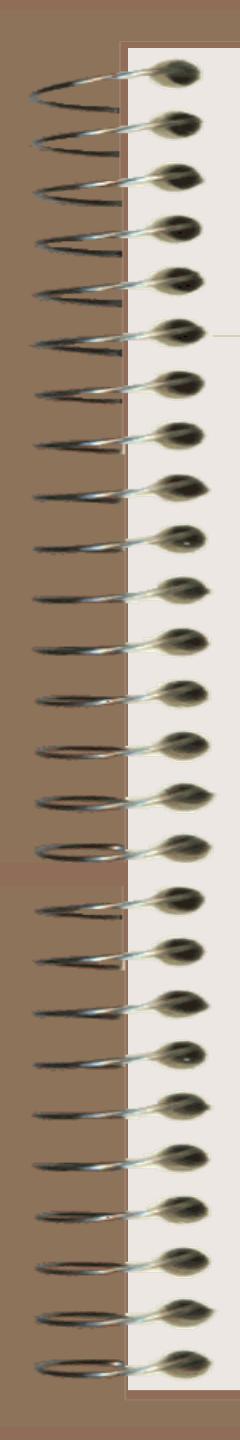
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- PID
  - Usu have fever, pelvic discomfort, CMT, adnexal tenderness but can present atypically
  - Can cause menorrhagia or metrorrhagia
  - More common during menstruation and with BV
- Trichomonas
- Endocervicitis

# Endocrine abnormalities

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- Hyperthyroidism
  - Amenorrhea
  - Oligomenorrhea
    - most common
  - Hypermenorrhea
  - Polymenorrhea,
- Hypothyroidism
  - Amenorrhea
  - Oligomenorrhea
  - Polymenorrhea
  - Menorrhagia
  - Occurs more frequently with severe hypothyroidism



# Bleeding disorders

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- Formation of a platelet plug is first step of homeostasis during menstruation
- Two most common disorders are von Willebrand's disease and thrombocytopenia
- May be particularly severe at menarche, due to the dominant estrogen stimulation causing increased vascularity

# Endometrial hyperplasia

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- Overgrowth of the glandular epithelium of the endometrial lining
- Usually occurs when a patient is exposed to unopposed estrogen, either estrogenically or because of anovulation
- Rates of neoplasm
  - simple hyperplasia: 1%.
  - complex hyperplasia with atypia: 30%

# Uterine cancer

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- Fourth most common cancer in women
- Risk factors
  - nulliparity, late menopause (after age 52), obesity, diabetes, unopposed estrogen therapy, tamoxifen, history of atypical endometrial hyperplasia
- Most often presents as postmenopausal bleeding in the sixth and seventh decade
  - only 10% of patients with postmenopausal bleeding when investigated will have endometrial cancer
- Perimenopausally can present as menometrorrhagia

# Anovulatory Bleeding

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- First year after menarche
- Perimenopause
- Polycystic Ovarian Syndrome
- Adult-onset Congenital Adrenal Hyperplasia
- Other: androgen producing tumors, hypothalamic dysfunction, hyperprolactinemia, pituitary disease



# Taking the History

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- Age
- Cyclic or anovulatory pattern
- Ob history
- Gyn and sexual history
- Medications
- Family history



# Physical Exam

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- Vital signs
- Weight
- Neck exam
- Skin exam
- Breast exam
- Pelvic exam

# Laboratory studies

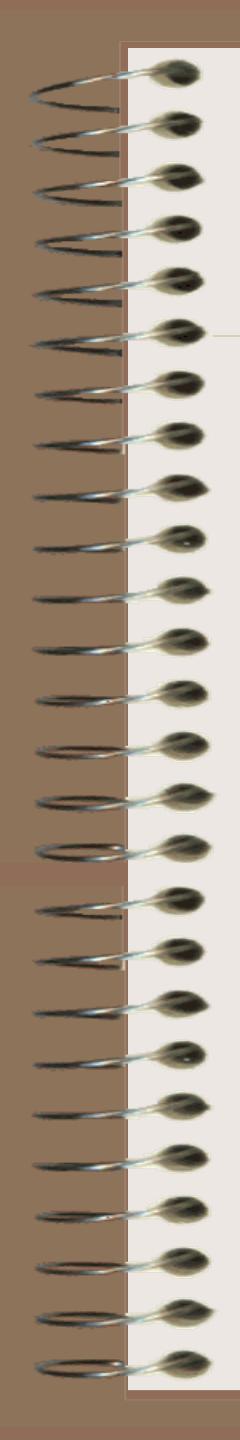
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- CBC
- Urine or serum pregnancy test
- TSH
  - symptoms consistent with hypo/hyperthyroidism
  - women presenting with a change from a normal menstrual pattern
- PT, PTT, and bleeding time.
  - adolescents presenting with menorrhagia at menarche
- PCOS/Adult-onset CAH
  - LH, FSH, testosterone, androstenedione, basal 17-hydroxyprogesterone (17-HP)

# Ultrasound



- Evaluate ovaries for PCOS
- Evaluate for fibroids
- Evaluate endometrial stripe



# Sono hysterography

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- transvaginal ultrasound following installation of saline into the uterus
- most useful for differentiating focal from diffuse endometrial abnormalities
- can help guide the decision of doing a hysteroscopy to evaluate a focal abnormality versus performing an endometrial biopsy or dilatation and curettage



# Magnetic Resonance Imaging

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- better than ultrasound in distinguishing adenomyosis from fibroids
- sometimes used to evaluate fibroids prior to uterine artery embolization for the treatment of fibroids
- endometrium can be evaluated with a MRI

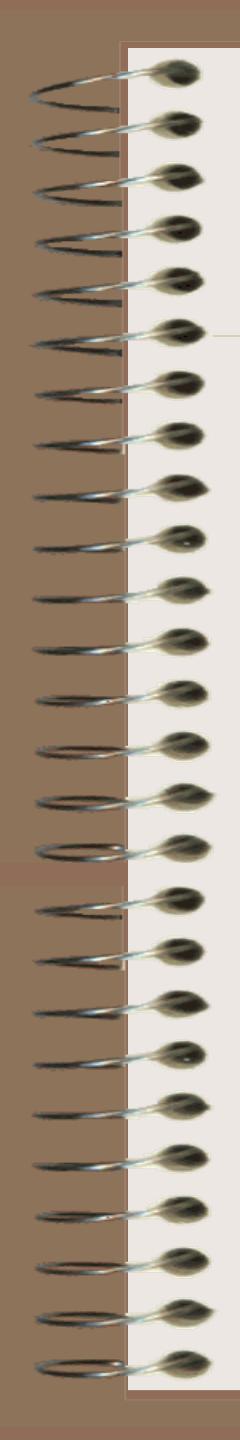


# Endometrial sampling

## Dilation and curettage

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- generally will provide sampling of less than half of the uterine cavity
- not effective as the sole treatment for menorrhagia
- useful in patients with cervical stenosis or other anatomic factors preventing an adequate endometrial biopsy



# Endometrial sampling

## Endometrial biopsy

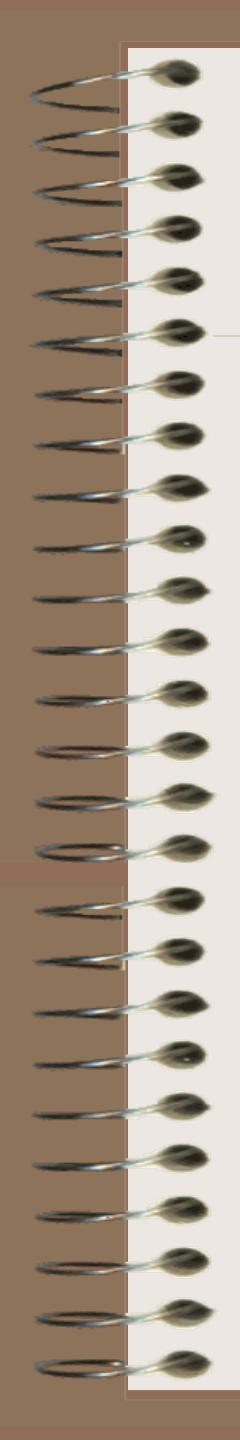
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- In the office use a clear, flexible endometrial curette with an inner plunger or piston that generates suction during the procedure
- rates of obtaining an adequate endometrial sample depends on the age of the patient
- If inadequate sample is obtained, must use additional diagnostic studies to fully evaluate the cause of the vaginal bleeding

# Diagnostic Hysteroscopy

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- direct exploration of the uterus is useful in identifying structural abnormalities like fibroids and endometrial polyps
- Larger diameter hysteroscopes allow specific biopsy of lesions
- In general, the diagnostic hysteroscopy is combined with a D&C or endometrial biopsy



# Treatment Goals

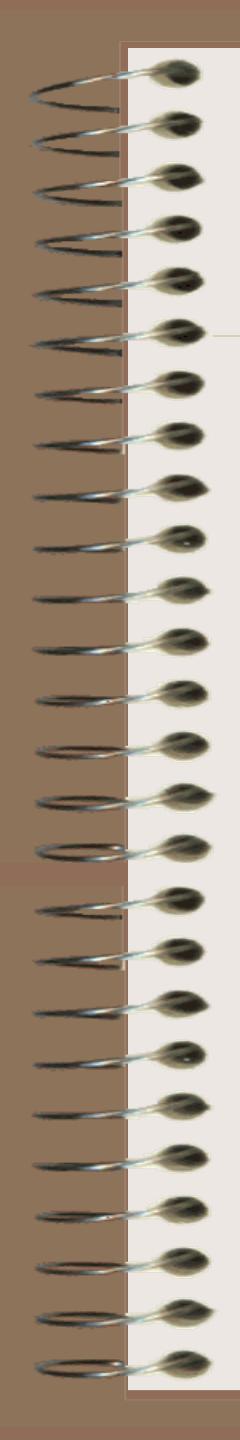
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- alleviation of any acute bleeding
- prevention of future noncyclic bleeding
- decrease in the patient's future risk of long-term health problems secondary to anovulation
- improvement in the patient's quality of life

# Prostaglandin Synthetase Inhibitors

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- mefanamic acid, ibuprofen, and naproxen
- Blood loss can be cut in half
- many of the studies completed in women with ovulatory cycles
- does not address the issues of future noncyclic bleeding and decreasing future health risks due to anovulation



# Estrogen

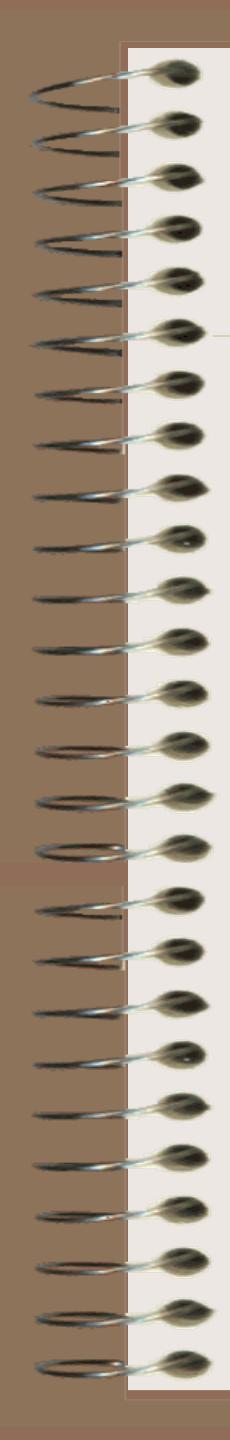
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- will temporarily stop most uterine bleeding, no matter what the cause
- dose commonly used is 25 mg IV of conjugated estrogen every four hours, or 2.5 mg p.o. QID
- Nausea limits using high doses of estrogen orally, but lower doses can be used in a patient who is hemodynamically stable

# Progestins

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- induce withdrawal bleeding
- decrease the risk of future hyperplasia and/or endometrial cancer
- continued for 7-12 days each cycle
- Medroxyprogesterone 10 mg x 10 days monthly common regimen
- norethindrone acetate (Aygestin), norethindrone (Micronor), norgestrel (Ovrette), and micronized progesterone (Prometrium, Crinone)



# Oral Contraceptives

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- option for treatment of both the acute episode of bleeding and future episodes of bleeding as well as prevention of long term health problems from anovulation
- triphasil norgestimate/ethinyl estradiol combination is what has been studied in a double-blind, placebo-controlled study
- various oral contraceptives have been used for decades
- Acute bleeding: 50mcg tab QID for one week after bleeding stops

# Endometrial Ablation

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- electrocautery, laser, cryoablation, or thermoablation
- all result in destruction of the endometrial lining
- outcomes are not well studied for women with anovulation
- most women will not experience long term amenorrhea after treatment
- risk of endometrial cancer is not eliminated

# Summary

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- Differential diagnosis depends on patients age
- Consider risks for endometrial cancer
  - nulliparity, late menopause (after age 52), obesity, diabetes, unopposed estrogen therapy, tamoxifen, and a history of atypical endometrial hyperplasia
- For DUB treatment plan includes addressing acute sx and preventive needs